at T° c. (below 25° c.) = R (at 25° c) [1 − 0.004 (25 − T)].

Weight, 2 per cent. high or low down to and including 10 mils dia. Resistance, 4 per

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CURRENT DENSITIES FOR VARIOUS KINDS OF CONTACTS AND FOR CROSS SECTION OF DIFFERENT MATERIALS.

KIND OF CONTACT.	MATERIAL.	CURRENT DENSITY. Amperes per Square Inch.	CURRENT DENSITY. Square Mils per Ampere.
SLIDING CONTACT (Brushes)	Copper Brush	150 to 175	5700 to 6700
	Brass Gauze Brush	100 to 125	8000 to 10000
	Carbon Brush	30 to 40	25000 to 33300
SPRING CONTACT (Switch Blades)	Copper on Copper	60 to 80	12500 to 16700
	Composition on Copper	50 to 60	16700 to 20000
	Brass on Brass	40 to 50	20000 to 25000
SCREWED CONTACT	Copper to Copper	150 to 200	5000 to 6700
	Composition to Copper	125 to 150	6700 to 8000
	Composition to Composition	100 to 125	8000 to 10000
CLAMPED CONTACT	Copper to Copper	100 to 125	8000 to 10000
	Composition to Copper	75 to 100	10000 to 13000
	Composition to Composition	70 to 90	11000 to 14000
FITTED CONTACT (Taper Plugs)	Copper to Copper	125 to 175	5700 to 8000
	Composition to Copper	100 to 125	8000 to 10000
	Composition to Composition	75 to 100	10000 to 13000
FITTED AND SCREWED CONTACT	Copper to Copper	200 to 250	4000 to 5000
	Composition to Copper	175 to 200	5000 to 5700
	Composition to Composition	150 to 175	5700 to 6700
CROSS SECTION	Copper Wire	1200 to 2000	500 to 800
	Copper Wire Cable	1000 to 1600	600 to 1000
	Copper Rod	800 to 1200	800 to 1200
	Composition Casting	500 to 700	1400 to 2000
	Brass Casting	300 to 400	2500 to 3300
	Brass Rod	575 to 750	1300 to 1700

Compiled by O. Stegeman, Milwaukee, Wis.

Supplement to MACHINERY, December, 1904.

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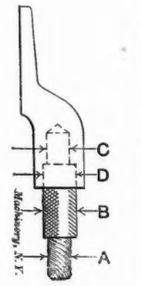
RUBBER COVERED CABLES.



This table is for the flexible rubber covered cables as are generally used by all electric generator and motor manufacturers and by power station operators for making connections between generators or motors and the switch board. They must not be confused with "power cables." Drills "C" and "D" allow for solder. Carrying capacity is in amperes.

No. of Cable, B. & S. Gage	Area in Circular Mills.	DIAMETER Bare (A)	DIAMETER Outside (B)	DRILLS IN TERMINAL. C	DRILLS IN TERMINAL. D	MAX. CARRYING CAPACITY. Fire Underwriters' Schedule. Rubber Insulation.	Fire Underwriters' Schedule. Other Insulation.	Rubber Covered, Entire Surface Exposed to the Air. 10° c. Rise.	Rubber Covered, Entire Surface Exposed to the Air. 30° c. Rise.
.....	600000	1.033	1.362	1 3/32	1 7/16	450	680	500	855
.....	550000	.995	1.324	1 1/16	1 13/32	420	635	480	791
.....	500000	.956	1.254	1 1/32	1 11/32	390	590	460	771
.....	450000	.911	1.209	1	1 9/32	360	545	430	735
.....	400000	.840	1.138	29/32	1 7/32	330	500	400	680
.....	350000	.810	1.108	7/8	1 3/16	300	450	370	650
.....	300000	.750	1.048	13/16	1 1/8	270	400	330	565
.....	250000	.715	1.013	25/32	1 3/32	235	350	285	485
0000	211600	.600	.898	11/16	31/32	210	312	245	440
000	168100	.540	.838	5/8	29/32	177	262	215	390
00	133225	.510	.808	19/32	7/8	150	220	185	330
0	105625	.459	.664	17/32	3/4	127	185	160	285
1	83521	.360	.565	7/16	21/32	107	156	140	245
2	66564	.324	.529	13/32	19/32	90	131	125	220
3	52441	.288	.493	1/4	9/16	76	110	105	190
4	41616	.257	.442	11/32	17/32	65	92	85	155
5	33124	.228	.413	7/32	1/2	54	77	75	135
6	26244	.203	.388	9/32	15/32	46	65	65	115
8	16384	.161	.315	1/4	5/16	33	46	50	85
10	10404	.148	.300	3/32	5/16	24	32	40	70
12	6561	.121	.263	3/16	11/32	17	23	30	50
14	4096	.076	.219	5/32	9/32	12	16	20	40
16	2601	.060	.184	1/8	1/4	6	8	15	30
18	1600	.048	.172	1/8	1/4	3	5	12	25

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be paid for if accepted. Only data not available in engineers' handbooks desired.

6 x 9 DATA SHEETS.

These data sheets are intended to be cut into four sections, 6 x 9 inches in size, as indicated by the straight lines. They may then be bound into note-book form for convenient reference by means of staples inserted in holes punched at the points indicated. A suitable binder for these data sheets will be supplied for 25 cents. This binder has an open back and will hold an indefinite number of 6 x 9 sheets, depending on the length of staples used.